

IN THE CLAIMS

Please amend the following claims.

Claims 1-17 (cancelled)

18. (New) A semiconductor device comprising:

a silicon substrate;

a patterned dielectric layer on the substrate; and

a metal layer on the dielectric layer, the metal layer comprising a first metal and a second metal, wherein the second metal is present in an amount sufficient to cause precipitation or a phase change in the metal layer and to increase the hardness of the metal layer.

19. (New) The device of claim 18 wherein the second metal is a solute that improves the hardness of the metal layer.

20. (New) The device of claim 18 wherein the second metal is beryllium.

21. (New) The device of claim 18 wherein the first metal is copper.

22. (New) The device of claim 18 wherein the first metal has a crystal lattice wherein atoms of the second metal are located in the lattice in locations where atoms of the first metal would typically be located.

23. (New) The device of claim 18 wherein the first metal has a crystalline lattice wherein atoms of the second metal occupy interstitial sites in the crystal lattice.

24. (New) The device of claim 18 wherein the second metal is present in the metal layer as large grained precipitate islands.

25. (New) The device of claim 18 wherein the second metal is present in the metal layer as a finely dispersed solute-rich phase.

26. (New) A semiconductor device comprising:

a silicon substrate;

a patterned dielectric layer on the substrate;

a metal layer comprising copper and beryllium.

27. (New) The device of claim 26 wherein beryllium is a finely dispersed solute rich phase.

28. (New) The device of claim 26 wherein beryllium is part of a large grain precipitate.

29. (New) The device of claim 26 wherein beryllium is present in the metal layer as a dispersed metal oxide species.